U.S. DEPARTMENT OF ENERGY | Energy Efficiency & Renewable Energy

Energyshed:
Exploring Place-Based Generation

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FOA Webinar

DE-FOA-0002565

June 22, 2022

Notice

- NO NEW INFORMATION OTHER THAN THAT PROVIDED IN THE FOA WILL BE DISCUSSED IN THE WEBINAR.

- There are no particular advantages or disadvantages to the application evaluation process with respect to participating on the webinar today.

- Your participation is completely voluntary.

Notice

- All applicants are strongly encouraged to carefully read the Funding Opportunity Announcement **DE-FOA-0002565 ("FOA")** and adhere to the stated submission requirements.
- This presentation summarizes the contents of FOA. If there are any inconsistencies between the FOA and this presentation or statements from DOE personnel, the FOA is the controlling document and applicants should rely on the FOA language and seek clarification by submitting a question to energyshed@ee.doe.gov

Anticipated Schedule:

FOA Issue Date:	6/6/2022
Submission Deadline for Full Applications:	8/1/2022 5:00pm ET
Expected Date for EERE Selection Notifications:	September 2022
Expected Timeframe for Award Negotiations:	Sept-Nov 2022

Agenda

1) FOA Description
2) Topic Areas/Technical Areas of Interest
3) Award Information
4) Statement of Substantial Involvement
5) Cost Sharing
6) FOA Timeline
7) Full Applications
8) Merit Review and Selection Process
9) Registration Requirements

FOA Description

Background and Purpose

- DOE seeks to advance prospects for an equitable and clean energy future

- EERE intends to accelerate the large-scale development and deployment of renewable energy while ensuring domestic energy security, continued economic competitiveness, environmental sustainability, and the availability of cleaner fuels and power

- These objectives require improvements in the affordability, reliability, and domestic benefit of renewable energy on the electric grid, as well as beneficial electrification of transportation and residential water and space heating

- Changes resulting from this requirement include:
  - Significant increases in large wind, solar and geothermal plants
  - Significant increases in Distributed Energy Resources like rooftop PV and Community Solar
  - Significant increases in local electric energy storage
  - Conversion of electric distribution systems for safe, reliable and resilient control of two-way energy flow

FOA Description (cont)

Background and Purpose (cont)

- As utilities, local governments, and community-based organizations consider increasing the use of more local, or placed-based, generation to support their community; there are a number of attributes of the electric power system that must be considered. These include the following:
  - Resilient: The ability to recover quickly from any situation or power outage
  - Reliable: Improved power quality and fewer power outages
  - Secure: Increased protection to our critical infrastructure
  - Affordable: As measured by a reduction in electricity generation and delivery costs
  - Flexible: Responds to the variability and uncertainty of conditions across a range of timescales, including a range of energy futures
  - Environmentally Sustainable: Reduces environmental impact of energy-related activities

- To make effective energy decisions, individuals and communities need decision-support systems with powerful new tools for analysis and communication of results, driven by data expanded beyond the electrical parameters of the grid

FOA Description (cont)

Goals and Objectives

- As utilities, local governments, and community-based organizations consider an objective of more placed-based generation, key attributes of the electric power system must be considered, including:
  - Resilience: The ability to recover quickly from any situation or power outage
  - Reliability: Improved power quality and fewer power outages
  - Security: Increased protection to our critical infrastructure
  - Affordability: reduced electricity generation and delivery costs
  - Flexibility: Response to the variability and uncertainty of conditions across a range of timescales, including a range of energy futures
  - Environmental Sustainability: Reduced environmental impact of energy-related activities
- Stakeholders must also consider objectives critical to developing community benefits, especially in disadvantaged communities, including:
  - Equity
  - Economic development
  - Clean energy jobs and workforce development
  - Energy burden
  - Environmental exposure
  - Clean energy enterprise creation
  - Energy democracy and ownership
  - Parity in clean energy technology access and adoption

FOA Description (cont)

Goals and Objectives (cont)

The goal of this funding opportunity is development of the tools and processes needed by a broad set of stakeholders to understand the implications of locally-based energy generation and participate in its development within their community.

Topic Area/Technical Areas of Interest

Project Scope and Requirements

Successful projects will develop tools and processes necessary for determining the impacts and tradeoffs, including potential benefits and challenges of incorporating more locally-based generation in a discrete geographic area. This may include dashboards, applications, accessible code and programs, and other analysis-based mechanisms; and should be accessible and easy-to-use for a wide array of stakeholders that are not necessarily electric power system experts.

More specifically, successful projects will:

(a) Collect a variety of relevant data as needed from utilities, consumers, local governments, community-based organizations, etc. necessary to make energy decisions and for understanding the implications of those choices;

(b) Develop a set of analytical tools which provide stakeholders the ability to fully weigh the impacts and tradeoffs, including potential benefits and challenges of developing more locally-derived generation under a range of future scenarios;

(c) Create associated communications tools to efficiently present analytical results in an appropriate context for different categories of users; and

(d) Validate data, tools and processes through robust stakeholder engagement with one or more representative communities.

Topic Area/Technical Areas of Interest (cont)

Project Objectives

Core objectives of successful projects include methods of data collection and the innovative tools for analysis, presentation, and communication of results necessary for an understanding of the current energy mix and to support decision-making in both near-term and strategic energy choices.

This work should be directed towards balancing the impacts and tradeoffs of more locally-based generation, including potential benefits and the resulting challenges. Considerations to be addressed include:

- Attributes related to the electric power system including resilience, reliability, security, affordability, flexibility, and sustainability;
- Workforce development, economic development, local retention of energy expenditures, and equity;
- Clean energy jobs and workforce development;
- Environmental exposure;
- Clean energy enterprise creation;
- Energy democracy and ownership;
- Parity in clean energy technology access and adoption;
- Minimalization of curtailment of renewable generation;
- Improvement in the reliability of transmission and distribution of electricity; and
- Provision of clear and actionable information to all stakeholders to inform their decisions related to local energy generation.

Topic Area/Technical Areas of Interest (cont)

Data

Data to be collected and incorporated into the developed tool(s)/dashboard must be customized for the priorities of the respective community. The data collected should be relevant to the attributes of the power system, workforce development, economic development, equity, etc.

Data must be readily available to all stakeholders. Data description must include approaches for managing data limitations and a plan for rigorous computation of critical and sparse data, particularly in the domains of social and community systems.

Examples of potentially relevant data include:

- Local energy resource potential
- Comprehensive historic energy generation data
- Energy use data, including granular load data through smart metering systems
- Granular DER (generation) data through smart metering and other distributed sensors
- Historic data on transmission congestion and projected hosting capacity of distribution

Topic Area/Technical Areas of Interest (cont)

Tools for Analysis

Analytical tools must meet the needs of the intended user. Beyond analysis of the electric grid itself, successful projects will develop methods that correlate customer load with generation within the energyshed, comprehensively allocate costs, facilitate design of equitable rates and optimize other factors relevant to the integration of multiple energyshed systems if they are overlapping or nested.

The analytical tools developed should:

- Include all relevant priorities identified by the community such as affordability, reliability, resilience, sustainability, etc. as well as the value of workforce development, economic development, and equity;
- Identify the impacts and tradeoffs, including potential benefits and challenges of locally-based generation
- Be highly accessible to all stakeholders
- Provide near- and long-term forecasting of energyshed total demand and load net of local generation, including scenarios for electrification of transportation and building heat in the long-term forecast.
- Provide near- and long-term forecasting of renewable generation, including scenarios for increased renewable generation in the long-term forecast.
- Provide medium- and long-term forecasting of electric energy costs, characterized by confidence and reflecting all costs to the consumer at point of delivery.

Topic Area/Technical Areas of Interest (cont)

Tools for Communication

Energyshed analysis must be effectively communicated to all users in a form tailored to their needs for understanding and decision-making.

The communication tools developed should:

- Visualize actionable tradeoffs among economic, environmental, and social indicators.
- Support individual stakeholder and community-level decision-making.
- Provide highly accessible interaction with affected stakeholders, providing real-time energy information, any operating options for the near future and evaluation of personal or community decisions regarding future installation of local renewable generation and electrification of transportation and building systems.
- Provide an integrated communication platform based on a common analytical layer, such that similar conclusions are likely regardless of presentation mode.

Topic Area/Technical Areas of Interest (cont)

Stakeholder Engagement

Successful projects should engage all stakeholders and are strongly encouraged to seek active participation with electric utilities serving the energyshed, local planning councils, community-based consumer representatives and relevant regulatory agencies. Applicants are encouraged to seek the participation of underserved communities and underrepresented groups. Successful projects will address gaps in diversity, equity, and inclusion.

Team Formation

Applicants are strongly encouraged to include utilities, local governments, and community-based organizations in the project team. Applicants are also encouraged to include academia, social scientists, economists, national laboratories, and software developers. Teams that include representation from diverse entities such as, but not limited to, Minority Serving Institutions (MSIs) including Historically Black Colleges and Universities (HBCUs)/Other Minority Institutions (OMIs), or linkages with Opportunity Zones are encouraged.

Non-Responsive Applications

The following types of applications will be deemed nonresponsive and will not be reviewed or considered for an award:

- Applications that fall outside the technical parameters specified in Section I.A or I.B of the FOA
- Applications for proposed technologies that are not based on sound scientific principles (e.g., violates the law of thermodynamics).
- Applications consisting solely of literature reviews related to energyshed.
- Applications that would create, rather than remove, data silos among stakeholder groups.
- Applications proposing methods of operational control, protection or communication for the broader electrical grid

Award Information

Total Amount to be Awarded	Approximately $10,000,000*
Average Award Amount	EERE anticipates making awards that range from $2,000,000 to $5,000,000.
Types of Funding Agreements	All awards will be Cooperative Agreements
Period of Performance	12 to 36 months
Cost Share Requirement	20% of Total Project Costs

*Subject to the availability of appropriated funds

Statement of Substantial Involvement

EERE has substantial involvement in work performed under awards made following this FOA. EERE does not limit its involvement to the administrative requirements of the award. Instead, EERE has substantial involvement in the direction and redirection of the technical aspects of the project as a whole. Substantial involvement includes, but is not limited to, the following:

- EERE shares responsibility with the Recipient for the management, control, direction, and performance of the Project.
- EERE may intervene in the conduct or performance of work under this award for programmatic reasons. Intervention includes the interruption or modification of the conduct or performance of project activities.
- EERE may redirect or discontinue funding the Project based on the outcome of EERE's evaluation of the Project at that the Go/No Go decision point.
- EERE participates in major project decision-making processes.

Cost Sharing Requirements

The cost share must be at least 20% of the total allowable costs for research and development projects (i.e., the sum of the government share, including FFRDC costs if applicable, and the recipient share of allowable costs equals the total allowable cost of the project) and must come from non-federal sources unless otherwise allowed by law. (See 2 CFR 200.306 and 2 CFR 910.130 for the applicable cost sharing requirements.)

To assist applicants in calculating proper cost share amounts, EERE has included a cost share information sheet and sample cost share calculation as Appendices A and B to this FOA.

Cost Share Contributions

- Contributions must be:
  - Specified in the project budget
  - Verifiable from the Prime Recipient's records
  - Necessary and reasonable for proper and efficient accomplishment of the project
- If you are selected for award negotiations, every cost share contribution must be reviewed and approved in advance by the Contracting Officer and incorporated into the project budget before the expenditures are incurred
- Please note, vendors/contractors may NOT provide cost share. Any partial donation of goods or services is considered a discount and is not allowable.

Allowable Cost Share

- Cost Share must be allowable and must be verifiable upon submission of the Full Application
- Refer to the following applicable Federal cost principles:

Entity	Cost Principles
For-profit entities	FAR Part 31 *http://farsite.hill.af.mil/reghtml/regs/far2afmcfars/fardfars/far/31.htm*
All other non-federal entities	2 CFR Part 200 Subpart E - Cost Principles *https://www.ecfr.gov/cgi-bin/text-idx?node=2:1.1.2.2.1.5&rgn=div6*

Allowable Cost Share

- Cash Contributions
  - May be provided by the Prime Recipient, Subrecipients, or a Third Party (may not be provided by vendors/contractors)

- In-Kind Contributions
  - Can include, but are not limited to: the donation of volunteer time or the donation of space or use of equipment.

For more information, see the Cost Share Appendix A in the FOA

Unallowable Cost Share

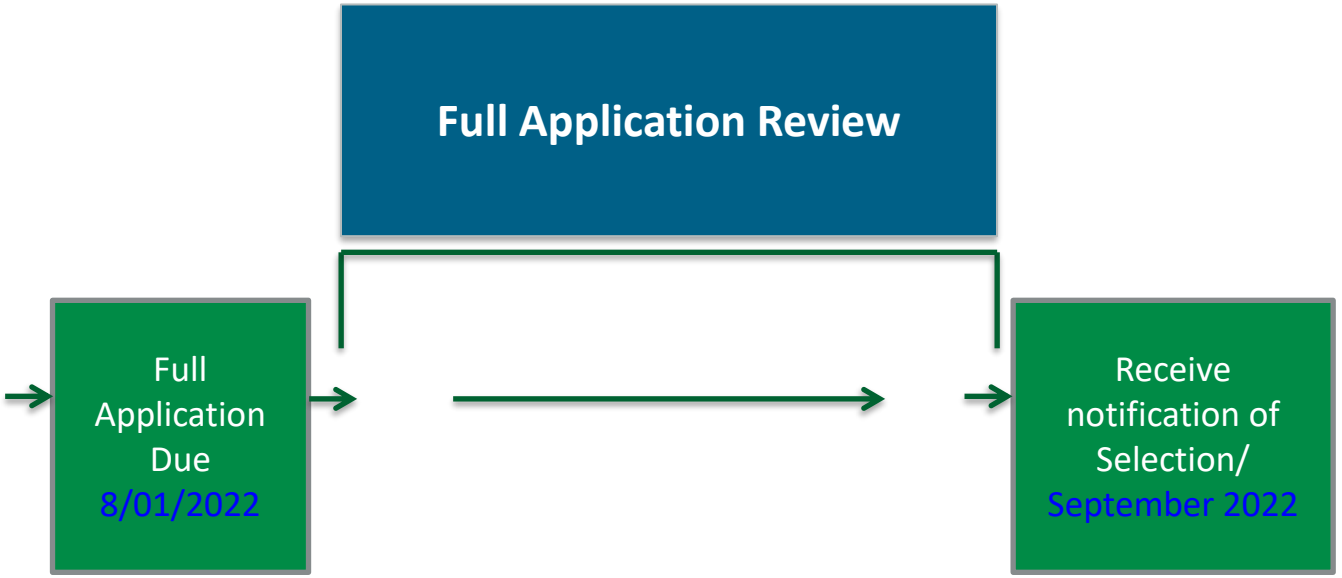
The Prime Recipient may **NOT** use the following sources to meet its cost share obligations including, but not limited to:

- Revenues or royalties from the prospective operation of an activity beyond the project period
- Proceeds from the prospective sale of an asset of an activity
- Federal funding or property
- Expenditures reimbursed under a separate Federal Technology Office
- The same cash or in-kind contributions for more than one project or program
- Vendor/contractor contributions

Cost Share Payment

- Recipients must provide documentation of the cost share contribution, incrementally over the life of the award
- The cumulative cost share percentage provided on each invoice must reflect, at a minimum, the cost sharing percentage negotiated
- In limited circumstances, and where it is in the government's interest, the EERE Contracting Officer may approve a request by the Prime Recipient to meet its cost share requirements on a less frequent basis, such as monthly or quarterly. See Section III.B.7 of the FOA.

FOA Timeline



EERE anticipates making awards by February 2023

Full Applications

The Full Application includes:

- **Technical Volume**: The key technical submission - info relating to the technical content, project team members, etc.
- **SF-424 Application for Federal Assistance:** The formal application signed by the authorized representative of the applicant.
- **SF-424A Budget & Budget Justification:** a detailed budget and spend plan for the project.
- **Summary for Public Release**
- **Summary Slide**
- **Diversity, Equity and Inclusion Plan**

Full Applications: Technical Volume Content

Technical Volume: the key technical component of the Full Application

Content of Technical Volume	Suggested % of Technical Volume
Cover Page	
Project Overview	10%
Technical Description, Innovation and Impact	30%
Workplan and Market Transformation Plan	40%
Technical Qualifications and Resources	20%

The Technical Volume must not exceed 15 pages.

Diversity, Equity, and Inclusion Plan

This FOA seeks to encourage the participation of underserved communities and underrepresented communities.

The Diversity, Equity, and Inclusion Plan should contain the following information:

- Equity Impacts: the impacts of the proposed project on underserved communities, including social and environmental impacts.
- Benefits: The overall benefits of the proposed project, if funded, to underserved communities; and
- How diversity, equity, and inclusion objectives will be incorporated in the project.

The Diversity, Equity, and Inclusion Plan must not exceed 3 pages.

Full Application Eligibility Requirements

- Applicants must submit a Full Application by August 1, 2022 5:00pm ET
- Full Applications are eligible for review if:
  - The Applicant is an eligible entity Section III.A of FOA;
  - The Cost Share requirement is satisfied Section III.B of FOA;
  - The Full Application is compliant with Section III.C of FOA; and
  - The proposed project is responsive to the FOA Section III.D of FOA
  - The Full Application meets any other eligibility requirements listed in Section III of the FOA.

Who is Eligible to Apply?

Applicants eligible for this FOA as Prime Recipient include:

1. U.S. citizens and lawful U.S. permanent residents
2. For-profit entities
3. Educational institutions
4. Nonprofits
5. State, local, and tribal government entities

For more detail about eligible applicants, please see Section III.A of the FOA

Nonprofit organizations described in Section 501(c)(4) of the Internal Revenue Code of 1986 that engaged in lobbying activities after December 31, 1995, are not eligible to apply for funding.

Prime Recipients must be in must be incorporated (or otherwise formed) under the laws of a State or territory of the United States and have a physical location for business operations in the United States. See Section III.A.iii for requirements applicable to foreign entities applying under this FOA.

Multiple Applications

Limitation on Number of Full Applications Eligible for Review

An entity may only submit one Full Application to this FOA. If an entity submits more than one Full Application, EERE will request a determination from the applicant's authorizing representative as to which application should be reviewed. Any other submissions received listing the same entity as the applicant will not be eligible for further consideration. This limitation does not prohibit an applicant from collaborating on other applications (e.g., as a potential subrecipient or partner) so long as the entity is only listed as the applicant on one Full Application submitted under this FOA.

Merit Review and Selection Process (Full Applications)

- The Merit Review process consists of multiple phases that each include an eligibility review and a thorough technical review
- Rigorous technical reviews are conducted by reviewers that are experts in the subject matter of the FOA
- Ultimately, the Selection Official considers the recommendations of the reviewers, along with other considerations such as program policy factors, to make the selection decisions

Technical Merit Review Criteria

Criterion 1: Technical Merit, Innovation, and Impact (50%)

This criterion involves consideration of the following factors:

Technical Merit and Innovation

- Extent to which the proposed technology or process is innovative;
- Degree to which the current state of the technology and the proposed advancement are clearly described;
- Extent to which the application specifically and convincingly demonstrates how the applicant will move the state-of-the-art to the proposed advancement; and
- Sufficiency of technical detail in the application to assess whether the proposed work is scientifically meritorious and revolutionary, including relevant data, calculations and discussion of prior work in the literature with analyses that support the viability of the proposed work.

Impact of Technology Advancement

- How the project supports the topic area objectives and target specifications and metrics; and
- The potential impact of the project on advancing the state-of-the-art.

Technical Merit Review Criteria

Criterion 2: Project Research and Market Transformation Plan (25%)

This criterion involves consideration of the following factors:

Research Approach, Workplan and SOPO

- Degree to which the approach and critical path have been clearly described and thoughtfully considered; and
- Degree to which the task descriptions are clear, detailed, timely, and reasonable, resulting in a high likelihood that the proposed Workplan and SOPO will succeed in meeting the project goals.

Identification of Technical Risks

- Discussion and demonstrated understanding of the key technical risk areas involved in the proposed work and the quality of the mitigation strategies to address them.

Technical Merit Review Criteria

Criterion 2: Project Research and Market Transformation Plan (25%) (Con't)

This criterion involves consideration of the following factors:

Baseline, Metrics, and Deliverables

- The level of clarity in the definition of the baseline, metrics, and milestones; and
- Relative to a clearly defined experimental baseline, the strength of the quantifiable metrics, milestones, and a mid-point deliverables defined in the application, such that meaningful interim progress will be made.

Market Transformation Plan

- Identification of target market, competitors, and distribution channels for proposed technology along with known or perceived barriers to market penetration, including mitigation plan; and
- Comprehensiveness of market transformation plan including but not limited to product development and/or service plan, commercialization

Technical Merit Review Criteria

Criterion 3: Team and Resources (15%)

This criterion involves consideration of the following factors:

- The capability of the Principal Investigator(s) and the proposed team to address all aspects of the proposed work with a high probability of success. The qualifications, relevant expertise, and time commitment of the individuals on the team;
- The sufficiency of the facilities to support the work;
- The degree to which the proposed consortia/team demonstrates the ability to facilitate and expedite further development and commercial deployment of the proposed technologies;
- The level of participation by project participants as evidenced by letter(s) of commitment and how well they are integrated into the Workplan; and
- The reasonableness of the budget and spend plan for the proposed project and objectives.

Technical Merit Review Criteria

Criterion 4: Diversity, Equity, and Inclusion (10%)

This criterion involves consideration of the following factors:

- The quality and manner in which the measures incorporate diversity, equity and inclusion goals in the project; and
- Extent to which the project benefits underserved communities.

Selection Factors

The Selection Official may consider the merit review recommendation, program policy factors, and the amount of funds available in arriving at selections for this FOA

Program Policy Factors

The Selection Official may consider the following program policy factors in making his/her selection decisions:

- The degree to which the proposed project exhibits technological diversity when compared to the existing DOE project portfolio and other projects selected from the subject FOA;
- The degree to which the proposed project, including proposed cost share, optimizes the use of available EERE funding to achieve programmatic objectives;
- The level of industry involvement and demonstrated ability to accelerate commercialization and overcome key market barriers;
- The degree to which the proposed project is likely to lead to increased employment and manufacturing in the United States;
- The degree to which the proposed project will accelerate transformational technological advances in areas that industry by itself is not likely to undertake because of technical and financial uncertainty; and
- The degree to which the proposed project, or group of projects, represent a desired geographic distribution (considering past awards and current applications).
- Whether the proposed project will occur in a Qualified Opportunity Zone or otherwise advance the goals of Qualified Opportunity Zones. The goals include spurring economic development and job creation in distressed communities throughout the United States.

Registration Requirements

- To apply to this FOA, Applicants must **register with and submit application materials** through EERE Exchange: https://eere-Exchange.energy.gov/
- **Obtain a "control number"** at least 24 hours before the first submission deadline
- Although not required to submit an Application, the following registrations must be complete to receive an award under this FOA:

Registration Requirement	Website
SAM/UEI (Prime and Subrecipients)	https://www.sam.gov
FedConnect	https://www.fedconnect.net
Grants.gov	http://www.grants.gov

Means of Submission

- Full Applications must be submitted through EERE Exchange at https://eere-Exchange.energy.gov
  - EERE will not review or consider applications submitted through other means
- The **Users' Guide** for Applying to the Department of Energy EERE Funding Opportunity Announcements can be found at https://eere-Exchange.energy.gov/Manuals.aspx

Key Submission Points

- Check entries in EERE Exchange
  - Submissions could be deemed ineligible due to an incorrect entry
- EERE strongly encourages Applicants to submit 1-2 days prior to the deadline to allow for full upload of application documents and to avoid any potential technical glitches with EERE Exchange
- Make sure you **hit the Submit button**
  - Any changes made after you hit submit will un-submit your application and you will need to hit the submit button again
- For your records, print out the EERE Exchange page at each step, which contains the application's Control Number

Applicant Points-of-Contact

- Applicants must designate primary and backup **points-of-contact** in EERE Exchange with whom EERE will communicate to conduct award negotiations
- It is imperative that the Applicant/Selectee **be responsive** during award negotiations and meet negotiation deadlines
  - Failure to do so may result in cancellation of further award negotiations and rescission of the Selection

Questions

- Questions about this FOA? Email energyshed@ee.doe.gov
  - All Q&As related to this FOA will be posted on EERE Exchange
    - You must select this specific FOA Number in order to view the Q&As
  - EERE will attempt to respond to a question within 3 business days, unless a similar Q&A has already been posted on the website
- Problems logging into EERE Exchange or uploading and submitting application documents with EERE Exchange? Email EERE-ExchangeSupport@hq.doe.gov.
  - Include FOA name and number in subject line